APPENDICES

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APPENDIX A

GRANDFATHERING PROVISIONS

A.1 PURPOSE

The purpose of this Appendix is to authorize specific circumstances under which interpretations of the tonnage regulations may be applied that predate the interpretations promulgated by changes to this MTN.

A.2 DISCUSSION

This MTN is intended to provide sufficient interpretive information to enable correct and consistent application of the tonnage measurement regulations. While the MSC's goal is to ensure the interpretative information is clear and keeps pace with the evolution of vessel designs, the MSC recognizes that designers and measurement organizations may apply reasonable interpretations of the regulations that are subsequently superseded by changes to the MTN. The MSC's position is that once tonnages have been certified using reasonable interpretations of the regulations, it is not necessary to remeasure a vessel for the purpose of applying later interpretations, unless requested by the vessel's owner. Further, in order to provide relief to owners who are having vessel's designed or redesigned on the basis of interpretations that are subsequently superseded, the MSC considers that grandfathering should be extended to such vessels, and to identical sister vessels.

A.3 GRANDFATHERING AUTHORIZATION

Interpretations of the tonnage regulations that immediately predate the interpretations promulgated by a change to this MTN may be applied at the option of the vessel's owner, for vessels in any of the following three categories:

(a) A vessel for which tonnages have not been certified and which was contracted for on or before the date of the MTN change.

(b) A vessel for which tonnages have been certified, but which has undergone modifications that were contracted for on or before the date of the MTN change.

(c) A sister vessel that is identical from the standpoint of tonnage measurement to a vessel described in either Section A.3(a) or Section A.3(b) above.

A vessel for which tonnages have already been certified should not be remeasured for the purpose of applying the latest interpretations of this MTN, except upon request by the vessel's owner and at the owner's expense.

A.4 CONSIDERATION OF OTHER VESSELS

The MSC recognizes that there may be unique circumstances under which grandfathering should be extended to vessels other than those described in Section A.3 above. The MSC will give consideration to requests to extend grandfathering to other vessels. Such requests must be made in writing to the Commanding Officer, MSC, and must be accompanied by information detailing the specific stage of design and/or construction of the vessel on the date of the MTN change that promulgated the superseded interpretations.

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APPENDIX B

DISCUSSION OF CHANGES

GENERAL

1. **Organization** The material that formerly appeared in enclosure (1) been reorganized into five separate enclosures to facilitate electronic access (e.g. smaller electronic file sizes).

SUBPART C – STANDARD MEASUREMENT

1. **General** The section on standard measurement interpretations was added, for which specific interpretations are discussed separately below.

2. **Section 69.103 - Double Bottom** Specific criteria was added to this definition, including the requirement that the inner bottom extend continuously fore and aft and from side to side (except for openings to tanks above). This is based on decision letters dated 2/20/20, 3/15/21, 5/17/21, 2/15/68, 2/19/69, 3/25/71, 10/8/76 and 4/26/78. The words "water ballast" were inserted before the words "double bottom" in this and related sections of the MTN to reflect that "double bottom" in this context refers to spaces used only for water ballast.

3. **Section 69.103 - Line of the Ordinary Frames** This definition was added to provide a general method for establishing the line to which under-deck breadth measurements are taken at each tonnage station using intersecting imaginary surfaces. Practice in this regard has varied, and no decision letters on this subject were found. The requirement to measure to the skin in the absence of qualifying ordinary framing is based on past practice, and a decision letter dated 7/17/46.

4. **Section 69.103 - Normal Frames** This definition was added to distinguish between "normal frames" and "ordinary frames." The term "normal framing" is used in the context of the framing for termination of breadth measurements in between-deck spaces and superstructures. It has been interpreted over the years to mean the smallest framing (e.g., superstructure spaces may not be "deep framed"). No decision letters on this subject were found.

5. **Section 69.103 - Ordinary Frames** This definition was added to clarify that the ordinary frames are the primary frames used to strengthen the hull. In its original usage in the regulations, the expression "ordinary frames" referred to the recurring transverse frames that were located between the deeper "web frames." With the increasing acceptance of so-called "deep frames" over the years, the regulations have been interpreted as allowing breadth and depth measurements to be terminated on alternating "deep" ordinary frames and floors. The term "primary" is used to distinguish between earlier (and less specific) methods of establishing the line of the ordinary frames. These methods sometimes involved a more arbitrary approach to determining which frames are "predominant" (e.g., as described in a decision letter dated 5/13/69). Sections 69.109(p) and (q) provide additional information on how the line of the ordinary frames is established.

6. **Section 69.103 - Tonnage Interval** This definition was added to provide a convenient term for the distance between tonnage stations, as used in Section 69.109(p).

7. **Section 69.109(h)(1) - Deck Pitch / Camber** Interpretive material was added to this section to clarify that floors and longitudinals upon which depth measurements are terminated are specific types of ordinary frames. This section was also revised to clarify that any water ballast double bottom, whether cellular or not, is not included in measurement. This is based on decision letters dated 1/10/23, 10/12/23, 8/5/58, 10/8/76. Superseded requirements are found in decision letters dated 5/27/38 and 5/16/45 (both letters suggested that depth measurements may terminate on top of any double bottom space containing oil cargo), 8/30/85 (provided conflicting guidance on measurement to top of cellular double bottom) and 3/31/61, 8/2/65, 3/20/66, 7/22/66, 10/13/66, 5/16/68, 10/14/70, and 10/31/74 (allowed any double bottom - taken as an ensemble - to be considered as the ordinary bottom frames). Note that if the framing inside an inner bottom tank meets all of the requirements of ordinary framing, the depths would be terminated as if the top of the double bottom tank were not there, as described in decision letters dated 8/5/58, 12/31/59, and 8/30/85.

8. **Section 69.109(p) - Ordinary Frames in Monohulls** This section was added to specify general requirements on how the line of the ordinary frames is established in monohull vessels. This approach is consistent with past practice and decision letters, as discussed under the associated subsections below.

9. **Section 69.109(p)(1)(i) - Frame Intersection** This section was added to provide specific criteria regarding the penetration of ordinary frames by intersecting frames. These criteria are based on decision letters dated 5/14/69, 9/1/77, 12/16/87, 12/26/95, 1/26/96 and 2/22/96. The exception for cases of wooden vessels is based on language in versions of the regulations prior to the 1989 revision, which defined floor as "the lowermost piece of timber, notched to fit over the keel or keelson", and decision letters dated 8/24/44 and 11/2/50. Decision letters with the following dates are superseded: 4/26/56 (allowed transverses to be intercostal between keel and chine, and between chine and deck) and 11/13/69 (allowed notching of ordinary deep floors for longitudinals in a vessel of steel construction).

10. **Section 69.109(p)(1)(ii) - Material** This section was added to require that the ordinary frames be of the same material as the hull material, with provisions for granting of qualifying exceptions by the MSC. This requirement is based on past practice which precluded, for example, installation of a plywood "deep frame" in a steel vessel.

11. **Section 69.109(p)(1)(iii) - Attachment to Hull** This section was added to require that the ordinary frames be attached to the hull at least to the same extent as adjacent ordinary and normal framing. This is based on past practice and a decision letter dated 2/22/96. The requirement linking the attachment method to adjacent ordinary frames is a generalization of this practice, to prevent "pseudo" deep frames - that in no way serve to strengthen the hull - from being added between bona fide ordinary frames.

12. **Section 69.109(p)(1)(iv) - Framing Comprised of Different Elements** This section was added to require that different distinct elements of ordinary frames be bonded together to form an integral unit in the same (or equivalent) manner that the frame is joined to the hull. These requirements are based on decision letters dated 4/15/47, 10/19/50, 3/4/52, 12/23/77, 6/4/85 and 2/22/96. The requirement of the decision letter dated 10/19/50 on joint bonding certification is superseded. The restrictions of decision letters dated 7/29/54, 1/13/72, 12/23/77 and 6/4/85 on relative thicknesses of frame extensions are also superseded.

13. **Section 69.109(p)(2)(i) - General Requirements** This section was added to specify the minimum spacing requirement of 4 feet for transverse ordinary frames. This requirement is based on decision letters dated 11/15/65, 5/13/69, and 9/1/77. Also, the requirement that the framing continue for the length of one tonnage interval was added, consistent with the action of decision letters dated 5/13/69 and 2/6/70, and past practice.

14. **Section 69.109(p)(2)(ii) - Different Sized Framing** This section was added to provide the procedure for selecting the ordinary frames when the frames are of differing size. This section is based on decision letters dated 10/19/50, 12/31/59, 1/13/67, 2/6/70, 10/24/73, 5/16/74, 4/5/78 and 5/14/85. This procedure supersedes alternate methods of selecting the frames described in various decision letters, including selection of frames meeting classification society hull strength requirements (12/12/86), selection of closer spaced frames (3/21/85), or using plating thickness as a criteria (7/3/72).

15. **Section 69.109(p)(2)(iii) - Openings** This section was added to specify maximum size criteria for frame openings before the opening size must be taken into consideration when establishing sectional area breadth and depth measurements. The 18" diameter requirement (15" by 23" in fuel tanks) is based on decision letters dated 3/15/21, 4/9/68, 11/8/68, 5/14/69, 1/21/70, 1/14/74, 11/6/75, 4/20/87 and 2/26/88. The allowance for piping, ventilation, cabling, shafting and similar items to pass through openings was provided for in decision letters dated 5/14/69, 10/30/70, 1/14/74 and 11/6/75. The prohibition against structural elements passing through the opening is found in a decision letter dated 1/14/74. The requirement of decision letters dated 1/14/74 and 2/26/88 for structural evaluation of frame openings (e.g., to classification society rules) is superseded. The prohibition of the decision letter dated 1/14/74 against the passage of piping and shafting through the vent holes at the tops of floors and deep side frames is also superseded.

16. **Section 69.109(p)(2)(iii)(1) - Equivalent Sized Openings** An equivalent area option for frame openings was added to allow additional flexibility in the design of frame openings. This option is consistent with latitude given in the past, although no decision letters on this subject were found.

17. **Section 69.109(p)(2)(iii)(2) - Proximity of Openings** A restriction on frame opening spacing was added, consistent with past practice. No decision letters on this subject were found.

18. **Section 69.109(p)(2)(iii)(3) - Location of Openings** This section was added to reflect that frame openings may be situated in any location within, or along the outboard edge of the frame. This is based on decision letters dated 1/14/74 and 11/6/75, permitting snipes and vent holes without affecting breadth measurements. The criteria are generalized in order to be less restrictive (e.g., openings meeting the maximum size criteria may be situated along the outboard edge of the frame).

19. **Section 69.109(p)(2)(iii)(4) - Strapping** This section was added to recognize that straps meeting certain criteria can be installed across existing frame openings in order to satisfy minimum opening size restrictions, based on decision letters dated 7/27/67, 10/31/68, 11/6/75, and 2/26/88. There are no restrictions on the orientation of the straps. The use of 1" flat bar, which would result in openings that do not meet proximity requirements, is no longer authorized.

20. **Section 69.109(p)(2)(iii)(5) - Intersecting Structural Members** This section was added to specify the prohibition against an intersecting structural member from passing through an opening, which is found in decision letters dated 10/30/70 and 1/14/74.

21. **Section 69.109(p)(2)(iv) - Vertical Continuity of Framing** This section was added to specify the requirement that an ordinary side frame extend continuously to the line of the tonnage deck, based on a decision letter dated 10/24/73. This precludes the installation of short, non-continuous frame sections as the “alternates” in an alternating deep/shallow framing system.

22. **Section 69.109(p)(2)(v) - Adjustments to the Line of the Ordinary Frames** This section was added to provide for adjusting the line of the ordinary frames so that frame material above the outboardmost point along the unadjusted line is ignored, consistent with past practice. These requirements are in general agreement with the multi-hull interpretations of the decision letter dated 3/18/97, although they are less restrictive in that they allow a vertically sided centerline passageway to constitute the only measurable area in the situation where the hull flares outward (rather than having the line of the ordinary frames follow the hull).

23. **Section 69.109(p)(3)(i) - General Requirements** This section was added to specify spacing requirements for ordinary longitudinal frames, consistent with spacing requirements for transverse frames. In addition, the requirement of decision letters dated 8/1/95 and 2/22/96 that longitudinal frames terminate either on the hull or transverse side to side bulkheads has been added, but generalized to require termination on a transverse ordinary frame. The term "bulkhead" leaves open the question of the kind of structure that would constitute a bona fide bulkhead (e.g., opening sizes, etc.) This section also addresses how the line of the ordinary frames is established when the longitudinal side framing sequence does not extend across the line of the tonnage deck.

24. **Section 69.109(p)(3)(ii) - Different Sized Framing** This section was added to provide the procedure by which the line of the ordinary frames is established for the case where ordinary longitudinal frames are of different sizes, consistent with the procedure used for transverse frames.

25. **Section 69.109(p)(3)(iii) - Frame Openings** This section was added to specify maximum size requirements for ordinary longitudinal frame openings, consistent with opening requirements for transverse frames.

26. **Section 69.109(p)(3)(iv) - Longitudinal Framing vs. Bulkheads** This section was added to highlight the fact that there is no longer a requirement for notching longitudinal deep frames to distinguish such frames from "bulkheads." This superseded requirement is found in decision letters dated 5/14/68, 3/4/88, 8/1/95, 1/25/96 and 2/22/96.

27. **Section 69.109(p)(3)(v) - Intersection with Transverse Frames** This section was added to prohibit credit from being taken for the portion of a longitudinal ordinary frame that projects above the top of an intersecting transverse frame, consistent with past practice. No decision letters on this subject were found.

28. **Section 69.109(p)(3)(vi) - Transition Between Side and Bottom Frames** This section was added to specify a maximum 4 foot spacing requirement for transitioning between longitudinal side framing and bottom framing. Practice in this regard has varied, and no decision letters on this subject were found.

29. **Section 69.109(p)(3)(vii) - Adjustments to the Line of the Ordinary Frames** This section was added to provide for adjusting the line of the ordinary frames so that material above the outboardmost point along the unadjusted line is ignored, consistent with section 69.109(p)(2)(v).

30. **Section 69.109(p)(3)(viii) - Examples** This section was added to provide examples of how the line of the ordinary frames is established in vessels having longitudinal framing systems with different depths of web.

31. **Section 69.109(p)(4) - Bottom Floors and Framing** This section was added to clarify that ordinary bottom floors and frames must qualify as ordinary transverse or longitudinal frames, except that the framing need only run from turn of bilge to turn of bilge. This is based on decision letters dated 7/12/54, 7/24/68,

1/13/72, 4/26/78 and 1/26/96. A requirement that transverse bottom floors and frames connect to ordinary side frames (if installed) was added, based on decision letters dated 10/29/23, 9/14/39, 2/26/64, 11/8/68 and 4/26/78. This section also reflects that notches or other discontinuities in the upper edges of ordinary floors must be taken into account in depth and breadth measurements, based on decision letters dated 2/26/64, 11/23/64, 5/26/66, 5/9/67, 4/9/68, 7/24/68, 11/8/68, 2/19/69, 5/14/69, 4/15/71 and 11/8/68.

32. **Section 69.109(p)(5) - Assymetrical Framing** This section was added to specify procedures for determining breadth measurements in the case of vessels where framing is asymmetric about the centerline of the vessel. Requirements for symmetry have been in practice for many years, and are reflected in a decision letter dated 6/27/91.

33. **Section 69.109(q) - Ordinary Frames in Multihull Vessels** This section was added to specify the procedure for calculating the under-deck measurement of multi-hulled vessel provided in a decision letter dated 3/18/97.

34. **Section 69.111(c) - Method of Calculating Tonnage** A clarification was added to reflect that the breadths are measured to the line of the normal (smaller) frames, consistent with past practice and a decision letter dated 2/26/52.